

### REMARKS

Claims 1-3, 8-12, 19-21, 25-31 and 61-62 are pending in this application. No claim has been amended herein since base claims 1 and 12 and their respective dependent claims 2-3, 8-11, 19-21, 25-31 and 61-62 are believed to be clearly distinguishable over the cited prior art, including Osakabe, U.S. Patent No. 5,872,763; Shoji et al., WO 02/11131; U.S. Publication No. 2004/0022166 and Shoji et al., U.S. Patent No. 6,157,609.

Turning now to the substance of the final Office Action, claims 1-3, 8-10, 12, 19, 25, 27 and 28 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Osakabe, U.S. Patent No. 5,872,763 (Osakabe '763) in view of Shoji et al., WO 02/11131; U.S. Publication No. 2004/0022166 (Shoji '166) and further in view of Shoji et al., U.S. Patent No. 6,157,609 (Shoji '609) for reasons stated on pages 2-6 of the Office Action. Again, in support of the rejection of base claims 1 and 12, the Examiner asserts that Osakabe '763 discloses most features as claimed, except:

(1) recording a test write pattern in a plurality of tracks; wherein the quality of the reproduced radio frequency signal is effected by writing in adjacent tracks, which the Examiner alleges as being disclosed or suggested by Shoji '166 (paragraph 103-105 of Shoji '166); and

(2) wherein write pattern elements of the write pattern are optimized using at least one of a magnitude, an asymmetry value, and a jitter value of the radio frequency signal, which the Examiner alleges as being disclosed or suggested by Shoji '609 (col. 2, lines 49-55; and column 19, 19-30).

As previously discussed, neither Osakabe '763, nor Shoji '166, nor Shoji '609, whether taken individually or in combination, discloses or suggests what the Examiner alleges. As a result, Applicants again request the Examiner to reconsider and withdraw this rejection for the following reasons.

First of all, base claims 1 and 12 define methods of optimizing recording on an optical recording medium to determine optimum powers, including optimum write, erase and bias powers ( $P_w$ ,  $P_e$ ,  $P_{bw}$ ), as shown, for example, in FIG. 9, and optimum write pattern elements of a write pattern, as shown, for example, in FIG. 10.

For example, base claims 1 and 12 define, *inter alia*:

setting standard powers, including write, erase and bias powers, for test recording and recording a test write pattern in a plurality of tracks of the optical

recording medium; and

checking a quality of a radio frequency signal reproduced from one of the plurality of tracks in which the test write pattern is recorded and which is affected by writing in adjacent tracks to determine optimum powers, including optimum write, erase and bias powers for optimized recording conditions,

wherein write pattern elements of the write pattern are optimized using at least one of a magnitude, an asymmetry value, and a jitter value of the radio frequency signal, so as to generate a write pattern having optimum write pattern elements used for data recording on the optical recording medium.

As defined in Applicants' base claims 1 and 12, optimum recording conditions, including powers and write pattern elements of a write pattern, are automatically realized, despite of occurrences of cross-erase caused during writing or cross-talk caused during reproduction.

In contrast to Applicants' base claims 1 and 12, Osakabe '763, as a primary reference, does **not** disclose what the Examiner alleges. Osakabe '763 only discloses a recording technique, as shown in FIG. 1, in which test recording signals are recorded on an optical disc by changing the intensity values of the erasing power, the bottom power and the writing power in order to determine a combination of optimum intensity values of the writing power and erasing power, of the writing power and bottom power, or of the writing power, erasing power and bottom power.

However, much of varying of intensity values of these powers is **not** based on Applicants' claimed "recording a test write pattern in a plurality of tracks of the optical recording medium" and "determining optimum powers, including optimum write, erase and bias powers, using a radio frequency signal reproduced from one of the plurality of tracks effected by writing in adjacent tracks", as defined in Applicants' base claims 1 and 12. Rather, Osakabe '763 describes on column 5, lines 5-30, as cited by the Examiner, that,

"when the test recording mode is instructed, the control section 50 controls the recording signal switching section 20 to connect to the test-recording signal generating section 16 so that test-recording signals 18 are output therefrom, and the control section 50 also controls the recording/reproducing section 22 to record the test-recording signals 18 on a predetermined area of the optical disc 28 while varying the intensity values of the writing power and erasing power, of the writing power and bottom power, or of the writing power, erasing power and bottom power. After that, under the control of the control section 50, the recorded test-recording signals 18 are reproduced so that the recording-quality-representing parameter detecting section 36 detects an asymmetry value, modulation factor or error rate of the signals, and then the optimum power determining section 38 determines a combination of optimum intensity values of the writing power and erasing power, the writing power and bottom power, or the writing power, erasing power and bottom power."

Osakabe '763 simply does **not** disclose or suggest what the Examiner alleges as Applicants' claimed "recording a test write pattern in a plurality of tracks of the optical recording medium" and determining "optimum powers, including optimum write, erase and bias powers," based on a "radio frequency signal reproduced from one of the plurality of tracks in which the test write pattern is recorded" as defined in Applicants' base claim 1. Likewise, Osakabe '763 does **not** disclose or suggest what the Examiner alleges as Applicants' claimed "recording a test write pattern in a plurality of tracks of the optical recording medium" and "determining optimum powers, including optimum write, erase and bias powers, using a radio frequency signal obtained from the test write pattern reproduced from one of the plurality of tracks affected by writing in adjacent tracks" as defined in Applicants' base claim 12.

As secondary references, both Shoji '166 and Shoji '609 also fail to disclose or suggest features the Examiner alleges. Therefore, even if Shoji '166 and Shoji '609 were to be incorporated in the manner as suggested by the Examiner, the proposed combination of Osakabe '763, Shoji '166 and Shoji '609 still does **not** demonstrate all limitations of Applicants' base claims 1 and 12, and, certainly, does **not** arrive at Applicants' base claims 1 and 12.

For example, the Examiner cites paragraph [103] to paragraph [105] of Shoji '166 for allegedly disclosing Applicants' claimed "recording a test write pattern in a plurality of tracks; wherein the quality of the reproduced radio frequency signal is effected by writing in adjacent tracks." However, the Examiner's citation is misplaced.

Shoji '166 only discloses a recording power determination method of an optical disc drive, shown in FIG. 1, in which an optimum recording power is based further on the distinction between land tracks and groove tracks, as shown in FIG. 2. This arrangement is intended to resolve a problem existing prior to Shoji '166, in which the recording power was set without distinguishing land tracks and groove tracks; see paragraph [0120] of Shoji '166. As shown in FIG. 4 and FIG. 5, land/groove recording/playback is conducted based on different powers set for land tracks and groove tracks.

The cited paragraph [103] to paragraph [105] of Shoji '166 simply refer to test recording on the minimum number of tracks, including groove tracks 202 and land tracks 204, shown in FIG. 2. For example, in paragraph [0107], Shoji '166 discloses that if,

"Four tracks, that is, land track 201, groove track 202, land track 204 and groove track 203, are continuously recorded in step 620.

The same four tracks are then played back in step 621."

In other words, **no** where in the cited paragraph [103] to paragraph [105] of Shoji '166, or any where else, is there any disclosure of Applicants' claimed "recording a test write pattern in a plurality of tracks" in which a "quality of the radio frequency signal reproduced from one of the plurality of tracks in which the test write pattern is recorded and which is effected by writing in adjacent tracks" as defined in Applicants' base claims 1 and 12, as incorrectly alleged by the Examiner.

Turning now to Shoji '609, the Examiner cites column 2, lines 49-55; and column 19, 19-30 of Shoji '609 for allegedly disclosing Applicants' claimed "write pattern elements of the write pattern [are] optimized using at least one of a magnitude, an asymmetry value, and a jitter value of the radio frequency signal [obtained from one of the plurality of tracks], so as to generate a write pattern having optimum write pattern elements used for data recording on the optical recording medium" as defined in base claims 1 and 12. Again, the Examiner's citation is also misplaced.

This is because Shoji '609 discloses a technique for determining optimum positions of leading and trailing edges of each mark in different run length limited (RLL) modulation based on the length of the mark to be recorded and the length of the preceding space, as shown, for example, in FIG. 3, in order to realize high density data recording. The cited column 2, lines 49-55; and column 19, 19-30 of Shoji '609 refer to the pattern signal 3201, as shown in FIG. 32, which represents marks and spaces with a different period, such as, 6T period. However, these marks and spaces do **not** represent Applicants' claimed "write pattern elements of the write pattern."

In fact, quite the opposite, Applicants' claimed "write pattern elements of the write pattern", as shown, for example, in FIGs. 6A-6B of Applicants' disclosure, represent write pattern elements that are inside of each mark, and not the marks and spaces themselves.

Thus, in view of these reasons and fundamental deficiencies of the Examiner's proposed combination, there is no reason for one skilled in the art to incorporate teachings of Shoji '166 and Shoji '609 into a recording device of Osakabe '763 in order to arrive at Applicants' base

claims 1 and 12 and its dependent claims. Moreover, even if Shoji '166 and Shoji '609 were to be incorporated into a recording device of Osakabe '763, the proposed combination still does not arrive at Applicants' base claims 1 and 12. Therefore, Applicants respectfully request that the rejection of these claims be withdrawn.

Nevertheless, on page 11 of the final Office Action, the Examiner notes Applicants' previous arguments against the rejection, but asserts that Applicants' argument was not based on the language of base claims 1 and 12. Specifically, the Examiner asserts that neither claim 1 nor claim 12 recites "using a magnitude of a radio frequency signal". Actually, the magnitude of the radio frequency signal is included in the context of optimizing "write pattern elements of the test write pattern" after the quality of the radio frequency signal is checked, as defined in Applicants' base claim 1, or alternatively, after the radio frequency signal is used to determine optimum powers, as defined in Applicants' base claim 12.

On page 12 of the final Office Action, the Examiner also asserts that Shoji '131 ('166) is relied upon for allegedly disclosing the "plurality of tracks". However, as previously pointed out, Shoji '166 discloses continuously test recording on four consecutive tracks, that is, land track 201, groove track 202, land track 204 and groove track 203, shown in FIG. 10 (step 620), and then playing back on the same four tracks (see step 621). Contrary to the Examiner's assertion, Shoji '166 does not disclose "recording a test write pattern in a plurality of tracks of the optical recording medium" and then "checking a quality of a radio frequency signal reproduced from **one** of the plurality of tracks in which the test write pattern is recorded" and, CERTAINLY NOT ALL THE SAME TRACKS, as disclosed by Shoji '166.

On the same page 12 of the final Office Action, the Examiner further asserts that Applicants have not provided any explanation as to why the prior art does not disclose all features as defined in Applicants' base claims 1 and 12. However, in view of the reasons discussed above, Applicants have specifically pointed out why all the cited prior art, including Osakabe '763, Shoji '166 and Shoji '609 do not disclose all limitations of Applicants' base claims 1 and 12, and even if Shoji '166 and Shoji '609 were to be incorporated into a recording device of Osakabe '763, the proposed combination still does not arrive at Applicants' base claims 1 and 12.

Turning now to other secondary rejections, claims 11 and 29-31 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Osakabe, U.S. Patent No. 5,872,763 in

view of Shoji et al., WO 02/11131; U.S. Publication No. 2004/0022166 is relied upon as a translation and further in view of Shoji et al., U.S. Patent No. 6,157,609 and further in view of Furumiya, U.S. Patent No. 6,791,926.

Claims 20 and 21 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Osakabe, U.S. Patent No. 5,872,763 in view of Shoji et al., WO 02/11131; U.S. Publication No. 2004/0022166 is relied upon as a translation and further in view of Shoji et al., U.S. Patent No. 6,157,609 and further in view of Ohara et al., U.S. Patent No. 5,140,580 for reasons stated on pages 6-7 of the final Office Action; claims 20 and 21 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Osakabe, U.S. Patent No. 5,872,763 in view of Shoji et al., WO 02/11131; U.S. Publication No. 2004/0022166 and further in view of Shoji et al., U.S. Patent No. 6,157,609 and further in view of Ohara et al., U.S. Patent No. 5,140,580 for reasons stated on pages 7-9 of the final Office Action; and lastly, claim 26 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Osakabe, U.S. Patent No. 5,872,763 in view of Shoji et al., WO 02/11131; U.S. Publication No. 2004/0022166 and further in view of Ohara et al., U.S. Patent No. 5,140,580 and further in view of Tsukamoto, U.S. Publication No. 2002/0141316 for reasons stated on pages 9-10 of the final Office Action. Since these rejections are predicated upon the correctness of the rejection of Applicants' base claims 1 and 12, Applicants respectfully request the Examiner to reconsider and withdraw this rejection for the same reasons discussed.

In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC office at (202) 216-9505. Applicants respectfully reserve all rights to file subsequent related application(s) (including reissue applications) directed to any or all previously claimed limitations/features which have been amended or canceled, or to any or all limitations/features not yet claimed, i.e., Applicants have no intention or desire to dedicate or surrender any limitations/features of the disclosed invention to the public.

**INTERVIEW:**

In the interest of expediting prosecution of the present application, Applicants respectfully

request that an Examiner interview be scheduled and conducted. In accordance with such interview request, Applicants respectfully request that the Examiner, after review of the present Amendment, contact the undersigned local Washington, D.C. area attorney at (202) 216-9505 for scheduling an Examiner interview, or alternatively, refrain from issuing a further action in the above-identified application as the undersigned attorney will be telephoning the Examiner shortly after the filing date of this Amendment in order to schedule an Examiner interview. Applicants thank the Examiner in advance for such considerations. In the event that this Amendment, in and of itself, is sufficient to place the application in condition for allowance, no Examiner interview may be necessary.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Stein, McEwen & Bui, LLP, No. 503333, and credit any excess fees to said deposit account.

Respectfully submitted,

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